From boatanchors@theporch.com Sat Jan 25 20:15:25 1997
From: Mike Toneri <toneri@ils.net>
Subject: Re:160M Contest
Message-ID: <199701260038.TAA14622@server1.ils.net>

Well I have just finished 1 hour on the 160M CW contest and the QRM is unbelieveable on the old HQ170A. Worked 23 states and 2 provinces and called VP5/KM9D and 8P9DX but no response from them. Haven't heard any European DX but then my antenna is only an inverted vee at 55 feet. Not a good DXing antenna. I'm going to give my ears a rest for a couple of hour and get back on later end try for some W6 and W7 stations. I should try the NC303 and see how it compares to the HQ170A under contest conditions.
73...Mike VE3FGU

****
Mike & Lynda Toneri   E-mail: toneri@ils.net
****

From boatanchors@theporch.com Sat Jan 25 20:15:25 1997
From: "Garey Barrell, K4OAH" <75025.73@CompuServe.COM>
Subject: 1614 v. 6L6
Message-ID: <970125225313_75025.73_FHD33-1@CompuServe.COM>

>From back in the 50's, when General Electric OWNED the page 1 spot in CQ Magazine

[QUOTE]

[Big stamp on picture of a 1614 metal tube.]

      "OK for radio-frequency use"

"IT'S R-F TESTED!"

Here's a tube that's a 6L6 in design and main characteristics, yet is factory checked and okayed for r-f work. Furthermore, the difference in price - if any - from what you'd pay for a 6L6, is negligible.

A bargain in price, the GL-1614 also is a best buy performance-wise. You can use the tube for oscillator, doubler, other r-f applications with complete confidence. Fingers needn't be kept crossed, as when you plug a 6L6 into an r-f circuit.

Everyone knows that a drill, not a wood-auger, is the right tool to use when boring through a steel panel. GL-1614 is the

proper tube for r-f, because it's tested and approved for that work. So relax! You'll get long, unworried hours of service from this beam power dependable.

Equally reliable are the solid CCS rating given above, for dusk-to-dawn brass pounding. And the tube's frequencies are well up there - an 80-mc top at full input, and 120 mc at somewhat reduced input. As for plate capacity, the GL-1614 takes without effort 30 w CS or 23 w phone.

Lot's of tube - the right tube - for very little! Confirm this grand value at your nearby G-E tube distributor. He's waiting to serve you!

GL-1614
CCS RATINGS, TYPICAL OPERATION, CLASS C TELEGRAPHY
D-c plate voltage 375 v
D-c screen voltage 250 v
D-c plate current   80 ma
Plate power output 21 w

[UNQUOTE]

FWIW.   Garey - K4OAH
75025.73@compuserve.com
Atlanta

From boatanchors@theporch.com Sat Jan 25 15:50:28 1997
From: "Lon W. Cottingham" <k5jv@swweb.net>
Subject: 1614 vs 6l6
Message-ID: <32EA3D0D.86A@swweb.net>

Roger and All,

     There should be no noticeable difference between the 1614 and most 6L6's. In fact, if you take a close look at the tube base, below the flange and above the pins, you will see 6L6 stamped on the 1614. If you must replace the 1614's, I would suggest using the readily available 5881.

     There are many, many reasons why you could receive reports of different sounding audio. Most of which, I believe, will be traced to low level driver stages, including the ever questionable driver transformer. Do not forget the modulation transformer itself and its feedback network. To prove this, try swapping the modulator tubes from one Ranger to

another (swap both tubes and keep track of which socket each tube came from). I predict that the audio quality will remain unique to each Ranger.

73 de Lon, K5JV

From boatanchors@theporch.com Sat Jan 25 15:50:28 1997
From: Scott Robinson <spr@earthlink.net>
Subject: 1614 vs 6L6
Message-ID: <v03007802af0fb558da91@[153.34.140.141]>

Gang,

The tube manual characteristics for these two type are very similar. I'd consider them fully iterchangeable, particularly with 6l6GC, whihc have a much higher plate dissipation rating (30W vs 19W) than any other type of 6L6. As to metal housing, well, if it's an RF power amp shielding will matter; if a modulator, I wouldn't worry much.

Regards,

Scott Robinson
spr@earthlink.net
"Wait'll he puts on his stereo headphones..."

From boatanchors@theporch.com Sat Jan 25 10:38:44 1997
From: Harry Vaught <hvaught@worldnet.att.net>
Subject: 1614/6L6
Message-ID: <19970125151634.AAA28137@HVAUGHT2>

Gang,

Me too, on the question about 6L6's replacing 1614's.

>From my tube manuals, and some Svetlana spec sheets, it looks like only the EL34 and the 6L6GC can handle the same voltages as the 1614. The EL34 draws nearly twice the filament current as the 1614, so would seem to be a bad choice. There is also a consideration about pin 1 since some of these tubes are pentodes, some are tetrodes,
some use pin 1 and some don't. This is easy to handle if the tubes are otherwise
ok.

One article I read about the 6L6, its ancestors and progeny, says that metal tubes were a passing fad of the 30's. It seems the tube companies thought that consumers were afraid of breaking glass tubes and cutting themselves. Since metal tubes were
more expensive and had heat dissipation problems, they had pretty much disappeared
by 1940. Really? Are all the metal tubes I've seen in my BA's from the 30's? It
don't seem likely. This article was audio oriented. Are there shielding considerations in a transmitter?

Anyway, if my Ranger needs new modulator tubes (I ain't that far yet), I was considering the Svetlana SV6L6GC. They are new, probably more easily available, and they'd put out more light. My son has a couple of Marshall guitar amps, one with 5881's and one with EL34's. It's really a sight, looking in the back of those things and seeing all those tubes lit up.

So, has anybody tried substituting for the 1614's in a Ranger I? Even if nobody on the list has actually done it, I'm sure someone knows a whole lot more about it than
I do.

Regards,

Harry, KT4AE

Harry Vaught, KT4AE
Lawrenceville, Georgia
hvaught@worldnet.att.net

From boatanchors@theporch.com Sat Jan 25 10:38:44 1997
From: "Roberta J. Barmore" <rbarmore@indy.net>
Subject: Re: 1614/6L6
Message-ID: <Pine.SUN.3.91.970125102500.2761C-100000@indy1>

Hi!

You *should* be able to use a 6L6GC anywhere a 6L6 or 1614 is called for. I have made that sub, many years back, in an RCA monitor amp that used a pair of 'em--it was the first time I ever really noticed the nice bright, sharp-edged blue glow a beam tube can produce. (It's not indicative of gas, it's just The Beam!).

There, it worked fine. Not having a Ranger (it was a Ranger about

which the question was, right?), I can't try them and see. But AFAIK, the 1614 was simply a metal 6L6 selected for lower noise.

The only glitchbug in the firewood might be sheilding issues, as many of the glass tubes don't have connection to pin 1, which is the metal shell connection for metal tubes (and the internally spray-shielded glass ones, though they can get flaky). But there'd have to be a *lot* of RF floating around inside the rig *and* some design flaws for this to be a problem, since the plates *ought* to be at ground for RF and have a hugely big AF sig on them, so any RF the tubes pick up *should* just go to ground and the bit that remains due to real-world limitations will be *way* below the AF sig and shouldn't be a problem.

Voltage ratings +c, a 6L6GC supposedly will be downward compatible with all earlier editions of the tube. 6L6s generally will withstand a *lot* more than Mr. Sarnoff's lads admit to--mind, I'll not say they'll last for years under extreme use, but they'll work. Even now, it's still not an expensive tube, so the major considerations are what a failure might do to any diffucult to replace passive componentry the tubes are connected to.

73,
--Bobbi

PS: Starting Monday, the poor old RCA F-line at work gets taken to bits and put in a HazMat dumpster. It's sad thing--and I may be a bit scarce though next week, trying to keep the wrecking crew from wrecking themselves or the gear still in use. A couple of *good* $7K tubes will get pitched in this effort, making 6L6s look like a *real* bargain!

From boatanchors@theporch.com Sat Jan 25 10:38:44 1997
From: "Roger A. McCarty" <rmccarty@deltanet.com>
Subject: Re: 1614/6L6
Message-ID: <32EA2D5A.1876@deltanet.com>

I m using 1614's in one Ranger, and 6L6's in the other. I can see no appreciable difference in operating characteristics nor do I hear reports indicating there is a difference in audio quality.

Roger KD6CC

From boatanchors@theporch.com Sat Jan 25 15:50:28 1997
From: Harry Vaught <hvaught@worldnet.att.net>
Subject: Re: 1614/6L6
Message-ID: <19970125162625.AAA8648@HVAUGHT2>

Bobbi,

Thanks for your reassuring answer on the 1614/6L6 question. I was going to try it unless someone said not to, but now I feel better about it.

Regards

Harry, KT4AE

Harry Vaught, KT4AE
Lawrenceville, Georgia
hvaught@worldnet.att.net

From boatanchors@theporch.com Sat Jan 25 20:15:25 1997
From: Harry Vaught <hvaught@worldnet.att.net>
Subject: 1614/6L6, Halli AGC
Message-ID: <19970125233825.AAA28416@HVAUGHT2>

Gang,

Many thanks to the several persons who answered my query about replacing 1614's with
6L6's. The consensus was - go ahead.

Thanks also to John Sehring for keeping the info flowing about Hallicrafters AGC and
IF's.

Harry, KT4AE

Harry Vaught, KT4AE
Lawrenceville, Georgia
hvaught@worldnet.att.net

From boatanchors@theporch.com Sat Jan 25 10:38:44 1997
From: "Gary F. Franklin" <103273.1070@CompuServe.COM>
Subject: 32S-3 Right on the Money!
Message-ID: <970125073548_103273.1070_IHH32-1@CompuServe.COM>

Greetings all!

I received many suggestions to my post about my sticky vox relay problem on my 32S-3...Thank you to all! The which was right on the money and provided the most help was great so I thought I would share it with you!

"Thanks to Jim W8ZR"

Gary K8BKB

>Hi Gang
>
>I have a problem with the VOX relay (K-1) on my 32S-3.... It wants to remain
>activated after I quit speaking in the VOX mode or after I release PTT
>when not
>in the VOX mode (VOX gain at min, Anti-Vox at min, Vox delay at min). Have to
>turn the transmitter off to de-energize the relay!. This problem seems to be
>heat related, begins to act up after the transmitter has been on for awhile.

>ideas????
>
>Gary K8BKB
****
Hi Gary,

Since K1 locks on when the PTT switch is closed, the problem most likely is not associated with the VOX amplifier V14A, or anti-VOX amplifier V14B. Evidently, the VOX relay actuator V11A is conducting properly (thus closing K1), but is not turning off at the end of the VOX delay time. The challenge, therefore, is to explain why V11A is locked into the conducting mode when its not supposed to be.

Since the circuit description in the manual is a bit sketchy, let me begin by analyzing the details of the relay circuit. I've always found it easiest to diagnose a problem if I first figure out how the circuit is supposed to work.

According to the circuit diagram, the cathode of V11A is tied to a postive voltage through the voltage divider action of R88 (1500 ohms) and the parallel combination of R89 (68K) and R112 (68K), the ends of which are tied to the +275V line. The voltage at the V11A cathode when the tube is not conducting (K1 open) is thus given by 275V(1500/35.5K)=11.6V.   In general, V11A will conduct, closing K1, when the voltage at its grid is comparable to or more positive than 11.6V. (If the grid is at, say, ground potential, then it will be 11.6V below the cathode voltage, and will thus be biased to cutoff.) When the PTT line is closed, this voltage divider is bypassed by R87, which grounds the cathode directly through 470 ohms. With the cathode grounded, the tube will conduct, thus activating the relay.

If you measure the voltage at the cathode of V11A and it isn't too far off from 11.6V, then we have to assume that the problem is coming from the components tied to the grid of V11A. The d.c. voltage on the grid of V11A

is supposed to swing positive on voice peaks, thus activating K1, and then decay in the negative direction as the VOX time delay period is reached. In order to understand why it isn't decaying properly, we first have to understand the details of how the voltages are developed.

Looking at the components tied to the grid of V11A, we see a network of high-value resistors, R79 (8.2M),. R81(8.2M) and the VOX time constant pot R86 (10M). The signal coming from R81 is coming from the anti-VOX rectifier V10. The voltage on the plate of V10 consists of negative half-wave rectified
audio from the receiver, with C121 (4700pF) doing the filtering to provide a slowing varying negative voltage. This voltage is applied to the grid of V11A through R81 (8.2M) and is intended to keep V11A from conducting on receiver speaker audio picked up by the microphone.

The VOX amplifer circuit is similar, except that the VOX recifier tube V10B provides positive half-wave rectified audio from the microphone amplifier. This positive voltage is applied to the grid of V11A through R79 (8.2M), which causes it to conduct. The drop-out time constant appears to be determined by the RC network consisting of the time constant pot R86 (10M) and C119 (.047uF). However, this circuit works in a rather odd way, since one end of C119 is left floating until V11A conducts, at which time it is tied to +275V through a set of contacts on K1. When K1 closes, C119 will charge up to 275V, with a time constant whose maximum value is R86(10M) times C119(0.47uF), or 0.47sec. While C1 is charging, the charging current through R86 will hold the grid of V11A positive, thus keeping K1 latched until C119 is fully charged.

So far as I can see, the only component failure that would explain your symptoms would be a leaky C119. If C119 was showing some leakage resistance, then when K1 was closed, the leakage current through C119 would latch V11A into a permanent conducting state. Once K1 was closed, there would be no way to open it, because of the K1 contacts that tie C119 to +275V. It would only take, say 10-20Mohms of leakage resistance to cause this problem, so you wouldn't notice the problem measuring resistances on the tube pins. Furthermore, the problem would exist regardless of whether K1 was closed by the VOX circuit or the PTT, which is consistent with your symptom. Note that C119 might very well test okay on a capacitance meter.

My advice: replace C119 with a new capacitor. If you want to check the diagnosis, just lift one end of C119 and see if the problem goes away (keeping in mind that your time constant will be so short you'll have chattering relays.)

I may be completely off base in my diagnosis and it will turn out to be some other problem. However, this is my best guess, and I'll just have to be embarrassed if it turns out to be something else. Good luck.

73,

Jim W8ZR

From boatanchors@theporch.com Sat Jan 25 10:38:44 1997
From: "D. Campbell" <dcampbel@lon.hookup.net>
Subject: 390a Manual-Manual's ??
Message-ID: <1.5.4.16.19970204101058.1affe092@mail.lon.hookup.net>

  Does anyone know which manual I need for the 390a? There appears to be many. I have the operator's manual TM 11-5820-358-10 and the Maintenance Manual TM 11-5820-358-20. Both of which are designed for the complete radio dummy. Instructions
on tuning the radio on shows pictures of fingers turning the knob. Almost as entertaining as Japenese translation for current radio manuals!
  I need a manual with schematics, alinement procedures etc. If anyone has such a beast
they want to sell or copy(all expences paid of coarse) please let me know.
  I also have the TM 11-856 for the 390(NON A) Must be something similar to this for
the 390(A)

        Even to know the # of the manual I am looking for would be a big help so I can start a search.
                                    Thanks, Dave

Dave Campbell
VE3ZZY
dcampbel@lon.hookup.net

From boatanchors@theporch.com Sat Jan 25 15:50:28 1997
From: JOHN_SEHRING.parti@ecunet.org
Subject: AM PERFORMANCE OF SX-100 SIDEBAND SELECT
Message-ID: <9701251449.aa06290@pcusa01.ecunet.org>

Unless your 2nd IF's are aligned to exactly 50.0 KHz (this is *not* in accordance with the alignment instructions, you won't be able to select the carrier and just one sideband by flipping the usb/lsb switch. You'll also have to retune as well. (The sideband selection is made by changing the

2nd mixer frequency from 1600 to 1700 KHz and vice versa.)

The selectable sideband feature is convenient, but not necessary, for SSB listening. Sideband selection can just as easily be accomplished by adjusting the BFO. It's only advantage is not having to retune when changing sidebands.

Being able to listen to just the carrier & only one sideband of an AM signal is very useful in dodging QRM--it definitely works! I wrote about this in the most recent issue of ER.

Since the IF bandpass on most samples of these radios is sort of saddle shaped (pseudo-flat-topped), to switch sidebands, just retune to put the carrier onto the other peak in the IF response.

Curiously, the very first Halli that used the double conversion scheme with 50 KHz 2nd IF's was the S-76. It did not have the selectable sideband feature via the 2nd mixer. The last Halli in this line was the SX-122--it did not have the selectable sideband feature either. All those in between did!

-John Sehring (01/24/97 7:44 pm ET @Midlothian, VA) ucc wb2eqg

From boatanchors@theporch.com Sat Jan 25 15:50:28 1997
From: jproc@bellglobal.com
Subject: Re: Ampeg Amp- need Help
Message-ID: <Chameleon.4.01.2.970125152039.jproc@>

Dear BA'ers,

Thanks to Dr. Electron of this group, the mystery part in my Ampeg amp has been identified. The smudge on the schematic, which loosely resembles an opto isolator symbol is called a vactrol (modern terminology. It consists of a neon lamp and a slow reacting photocell. This componet is in series with the signal chain which produces the tremolo effect.

Now... to get to work and fix the problem. My appreciation is extented to everyone who responded.

Regards,

Jerry Proc VE3FAB
E-mail: jproc@bellglobal.com
Radio Restoration Volunteer
HMCS Haida Naval Museum
Toronto, Ontario

From boatanchors@theporch.com Sat Jan 25 20:15:25 1997
From: jproc@bellglobal.com
Subject: BA Archives - How to Access
Message-ID: <Chameleon.4.01.2.970125200415.jproc@>

Dear Folks,

I have received at least three enquiries (this week alone) asking how to access the BA archives. Rather than continue to answer individual requests, I will send out a procedure to everyone.

1) To obtain a listing of BA archives, address E-mail to:
   listproc@theporch.com

   In the body of the message, ONLY type: index boatanchors
   Once the E-mail response is returned, select the file or files you wish to download.

2) Address another E-mail to : listproc@theporch.com

   To obtain one, or multiple files with a single E-mail, ONLY type the following in the body of the message:

   get boatanchors filename.1
   get boatanchors filename.2
   get boatanchors filename.3

   etc...etc...etc..
   (ie get boatanchors vt-to-jan.tube.crossref)

In each case, the subject field can be left blank unless your mailer demands some content.

PLEASE...PLEASE....save this message for future reference. There is a huge volume of useful information in the BA archives.

Regards,

Jerry Proc VE3FAB
E-mail: jproc@bellglobal.com
Radio Restoration Volunteer
HMCS Haida Naval Museum
Toronto, Ontario

From boatanchors@theporch.com Sat Jan 25 10:38:44 1997
From: johnz@earthlink.net
Subject: BA Review makes US News and World Report
Message-ID: <199701250635.WAA22002@norway.it.earthlink.net>

At 6pm I was still in the waiting room for a 4:30 Dr's appointment! But it did give me the opportunity to read the latest US News and World Report from cover to cover. My dozing eyes lit up when they came across the book review on page 70something for: Shortwave Receivers, Past and Present, even mentioning those who appreciate the nice warm glow of vacuum tubes!

John Zitzelberger W6GL
Thousand Oaks, CA

From boatanchors@theporch.com Sat Jan 25 15:50:28 1997
From: "Lon W. Cottingham" <k5jv@swweb.net>
Subject: Ballast replacement
Message-ID: <32EA42DA.73EB@swweb.net>

Michael and All,

Some time back, there was a great article in ELECTRIC RADIO, by Bill Kleronomos, on replacing ballast tubes in the R-390A. I recommend this article to everyone who operates a rig that uses one of these precious commodities.

The simple fact is that eventually (I predict not far in the future) we are going to have to stop using these rigs or find an acceptable replacement/fix for the problem. There are only so many of them available. I think the going rate is ridiculous ($17.OO from Fair Radio Sales). Bill's suggested fix uses a TO3 cased (or three terminal - I like this one) regulator to solve the problem. It is invisible to the eye as the old ballast tube can remain in place. All you will get from this fix is years and years of reliable service with far better regulation the original ballast tube provided.

There have been dozens of suggestions published through out the years relating to ballast tube replacement. I like this one, read the article, you may not.

73 de Lon, K5JV

From boatanchors@theporch.com Sat Jan 25 15:50:28 1997
From: Tom Norris <badger@telalink.net>
Subject: Ballast replacement
Message-ID: <3.0.32.19970125133329.006a1258@telalink.net>

>   Some time back, there was a great article in ELECTRIC RADIO, by Bill
>Kleronomos, on replacing ballast tubes in the R-390A. I recommend this
>article to everyone who operates a rig that uses one of these precious
>commodities.

I'm not knocking Bill, but it just seems much easier to replace the 6BA6
tubes with 12BA6 tubes in the PTO and BFO and be done with it, no other
mod other than jumpering the ballast socket is needed. No extra heat from
a regulator chip either.

I can tell no difference in performance between the 6 or 12 volt tubes.

Visit my web site with info on military communications gear:
HTTP://telalink.net/~badger/millist/index.html

ANY and ALL Contributions Welcome.
Photos, descriptions of gear that isn't
listed - no contribution too small.
****
Tom Norris KA4RKT
badger@telalink.net   Nashville, Tennessee, USA
thermionic@techie.com

****

From boatanchors@theporch.com Sat Jan 25 10:38:44 1997
From: Kn6di@aol.com
Subject: Battery
Message-ID: <970125085652_914047396@emout07.mail.aol.com>

Hi Gang,

I am in dire need for a source of a Burgess U-20 30V battery for my Tripplett
VOM that I recieved from Doug Hensley.
Tried local Electronics,McMaster Carr/Grainger. Newark etc.

My new e-mail is kn6di@aol.com Old address was Darney@gnn.com

Thanks
"Hank" KN6DI

From boatanchors@theporch.com Sat Jan 25 15:50:28 1997
From: John Kolb <jlkolb@cts.com>
Subject: Re: Battery
Message-ID: <Pine.SCO.3.91.970125102336.25105A-100000@sd.cts.com>

On Sat, 25 Jan 1997 Kn6di@aol.com wrote:

> I am in dire need for a source of a Burgess U-20 30V battery for my Tripplett
> VOM that I recieved from Doug Hensley.

I found the 22.5 V battery for my Simpson 269 at the local Radio Shack
for $6, after being told by the seller of another 269 at a swap meet that
they were special order items from a distributor for about $30.

John

From boatanchors@theporch.com Sat Jan 25 15:50:28 1997
From: kenc@smartdocs.com (Ken Corwin)
Subject: Battery
Message-ID: <199701251929.LAA29834@warp10.smartlink.net>

Hello, Hank:

In your quest to replace a Burgess U-20 30-volt battery, the following
cross references may be helpful:

   NEDA 210
   Eveready 413
   Mallory M-216
   Marathon 4210
   Ray-O-Vac A210
   Mil BA-305/U

Allied Electronics sells Eveready. $8.31 in their Catalog 956.
http://www.allied.avnet.com or 800/433-5700.

Regards,

Ken Corwin (kenc@smartdocs.com) Santa Clarita, Calif.

From boatanchors@theporch.com Sat Jan 25 15:50:28 1997
From: Kn6di@aol.com
Subject: Battery help Great
Message-ID: <970125152248_782997844@emout16.mail.aol.com>

Well Gang you did again. Got lot's of replies for locating the U-20

Thanks to all who responded.

Will check it out.
Hank
KN6DI

From boatanchors@theporch.com Sat Jan 25 20:15:25 1997
From: Ho4bart@aol.com
Subject: BC-221 trivia and ruminations
Message-ID: <970125173548_1545104188@emout14.mail.aol.com>

well i was going to swear off posting for a while, but this morn
i received kenc's thoro listing of bc-221's (what do we call these:
variants, suffixes, models, what?)
seeing the freq range got me to thinking.......ummm hmm....
about an article in worldradio, i think it was sept 94....it
seems on a military flight on xmas eve from adak to
anchorage, first the trailing ant was lost and then a fire in some
fusebox took out the radios, both comm and navigation. the
radio op fetches the bc-221 (batt powered) and clips it to the
leadin from the "fixed" (or fore-and-aft) antenna. then, flying
right over the iliamna beacon, he picks it up on the bc-221 &
has the pilot correct the course. (due to cloudy weather
condx, the flight is without navigator; i believe this means then
flying from beacon to beacon, not a straight shot)   anyway
then at anchorage they are fooled by the lights and almost
land in town, but pull up & correct course for the nearby mil
airfield. the op radios the tower using the bc-221 to turn on the
landing lites, a safe landing is made, happiness. years later
he finds the same bc-221 at a swapmeet, recognizes it by
a distinctive scratch made that one nite. when his wife nags
him to get rid of it, he remembers back to that nite and this
story unfolds......
well, it was a swell story but like the saying, "....if it sounds
too good to be true, it probably is...."   i pulled out my
handy dandy reference material, air navigation charts for alaska
1945, and radio facility list book, and had some problems
understanding the whole thing....from the elapsed time from

adak to iliamna.....the numerous just-so coincidences: xmas
eve passenger flite, fire in fusebox...... my reference sez iliamna
beacon JP 230 kc/s. okay, could they pick this up on bc-221 if
right over it? beacon power <800 w, probably half this. then at
anchorage, the cw freqs for "Merrill Tower", call WCZ, were
1638 and 3285. could the bc-221 reach the tower at maybe
a couple to several miles. (looks like anchorage to merrill about
5 miles.)   don't rule it out: a navy ex-PBY radioman told me
coming in to a florida airstation he liked to, for grins, call the
tower by using the LM to the antenna, but i believe he said
when right over the field.   so what say ye, sages of anchor
lore? a classic christmas story (i.e. fiction) like that Jimmy
Stewart movie, or plausible history? i might mention, altho i
shouldn't, the author is a well known name in traditional ham
radio activities (not anchorism tho).
i may be able to photocopy this article for would be scrutinizers
after it resurfaces here, or much later maybe email it.
"keep em lighting!"   hue miller

From boatanchors@theporch.com Sat Jan 25 20:15:25 1997
From: Kn6di@aol.com
Subject: Boonton 230A
Message-ID: <970125210503_1578671732@emout02.mail.aol.com>

Well Gang I need help again. Went to pick up a complete Heath station with
parts HW-200 included. A Boonton 230A Signal Generator/Power Amplifier
decided it had to live at a lower elevation, so it came home with me minus
you guessed it a MANUAL and one of those funny little HP power cords.
It has a HP ser. number 608-01746. Looks complete needs a bath and the silver
could use some polish Hi.

Does anyone have any info on this little devil.

Plus will pay any costs ref. copy of manual or original manual better yet.

The Heat sta came with original manuals I am now the third owner. Very
clean:HW-201-SP-600- SB-401 and SB-403 with cables. The HW-200 is complete
minus the RF cover and really needa a bath.

Thanks,
"Hank" KN6DI

From boatanchors@theporch.com Sat Jan 25 10:38:44 1997
From: "Dick Dillman" <ddillman@igc.apc.org>
Subject: Dutch BAs?

Message-ID: <43887.ddillman@igc.apc.org>

Greetings, folks. I'll be in Amsterdam on business for a couple of weeks in February and would appreciate any advice on tasty BA locations anywhere in Holland.

Thanks,

Dick

Dick Dillman
WPE2VT W6AWO
<ddillman@igc.apc.org>
Collector of Heavy Metal:
Harleys, Willys and Radios Over 100lbs.

From boatanchors@theporch.com Sat Jan 25 20:15:25 1997
From: joelutz@juno.com (Joseph W Lutz)
Subject: E.F. Johnson Transmitter Sales Figures
Message-ID: <19970126.020936.2910.6.JOELUTZ@juno.com>

Anchorites,

The following was being passed out at the Frostfest in Richmond last weekend, and thought it would be of interest to list members. I have also sent it to the Archives, hopefully Jack will include it there (as I have to claim complete ignorance on how to do same). The list was in an Excel-like listing, and any members that would like a copy of it, e-mail me direct and I will gladly copy same and send.

++

Model	Year										
--------	1949	1950	1951	1952	Totals						
Viking I	156	547	1436	1244	3,383						

--------	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	Totals
Viking II	1900	4156	2100	997	500	218	72	71	56	48	10,118

--------	1953	1954	1955	1956	1957	1958	1959	1960	1961	Totals
Mobile	817	228	250	192	127	78	52			

 73   20   1,837

--------   1954 1955 1956 1957 1958 1959 1960 1961
1962 1963 1964
Ranger   2800 2301   1070 1035 876   671   552   748
750   372   156

                          1965 1966   Totals
"   "   "   98   52   11,481

---------   1954 1955 1956 1957 1958 1959 1960 1961
1962 1963 1964
Adventurer   935   1969 1042 647   550   281   278   212
164   51   13

                          Totals
                          6,142

---------   1955 1956 1957   Totals
Desk Kilowatt   258   92   52   402

--------   1956 1957 1958 1959   Totals
Pacemaker   501   404   217   114   1,236

--------   1956 1957 1958 1959 1960 1961 1962 1963
1964 1965 1966
Valiant   1175 1518 206   1259 1003 816   634   292
  165   75   35

                          Totals
                          7,178

--------   1957 1958 1959 1960 1961 1962 1963 1964
1965 1966   Totals
6N2   587   285   189   241   262   305   154   82
37   18   2,160

--------   1957 1958 1959 1960 1961 1962 1963 1964
Totals
Five Hundred 452   134   126   78   43   24   5   3
865

--------   1957 1958 1959 1960 1961   Totals
Navigator   356   214   130   67   73   840

--------   1957 1958 1959 1960 1961   Totals
Courier   39   185   108   94   39   465

```
--------                1958  1959  1960  1961  1962  1963  1964  1965
1966    Totals
Challenger       653    1085  554    437    458     355    154     86
 54         3,836

--------                1958  1959  1960  1961  1962  1963  1964
Totals
Thunderbolt     346    237     103    90       48      60       13
 897

--------                1959  1960  1961  1962  1963  1964    Totals
6N2                   64       45       51      44       52       29
  285
Thunderbolt

--------                1960  1961  1962  1963  1964  1965  1966    Totals
10 M                  166    123     119    85       44       32      16
       585
Messenger

--------                1960  1961  1962  1963  1964    Totals
Invader             215     363    221     88      36         923

--------                1960  1961  1962  1963  1964    Totals
Invader 2000   79       175    78       34       20        386
```

++

As all can see, the leader in sales was the Ranger, with the Viking II, Valiant and Adventurer following. Come on - there has to be an Adventurer out there left for me, or are all 6,142 accounted for <G>. Enjoy the data, I have.
73 de JOE
- - - - - - - - - - - - - - - - -W7LPF/4 (NNN0KUU)- - - - - - - - - - - -
- - -
QWCA - NCVA - SOWP - FISTS
Gordonsville, Va 22942 (Orange County)
WTB: EFJ Adventurer,TR Switch, Heathkit Mobile "Twins" HR/HX-20, MR/MT-1
- -
- - - - - - - - - - -

From boatanchors@theporch.com Sat Jan 25 10:38:44 1997
From: SEAN SALOMON <rhs@pacbell.net>
Subject: Re: F.S. GRC-9 & more
Message-ID: <32E99A24.3B10@pacbell.net>

The EE-8 phones are sold.

Shortly after I posted the GRC-9 & oother things for sale my E-mail server belied up. I just now have full E-mail access back.

If there were any inquirees that I did not answer please re-send. They were in all likely hood swallowed by my E-mail server.

Regards, Rudy Salomon - KD6NRQ

From boatanchors@theporch.com Sat Jan 25 20:15:25 1997
From: "Arthur Moe" <kb7ww@transport.com>
Subject: For sale Zenith
Message-ID: <199701252143.NAA08450@butch.transport.com>

For sale:

Zenith Wavemagnet in verry good condition.

Offers please thru Feb. 1st . This will not be an auction. One offer per person
in case of tie earliest received wins. Offers do NOT includes shipping.

art
KB7WW

From boatanchors@theporch.com Sat Jan 25 10:38:44 1997
From: Eugene Rippen <soundval@foothill.net>
Subject: FS Swan 240 & 260
Message-ID: <32E97691.72B8@foothill.net>

For sale 2 SWAN Transceivers:

240 with SW117AC Power Supply/Speaker. SSB on 20/40/75M.
     Works. Has manual. The appearance is a 9 on a 10 scale.
     No MIc. $135 plus shipping.

260 Cygnet. SSB on 10/15/20/40/75M Works. Appearance is a 8+ on a 10 scale. No MIc. Receives good. Transmits just fair to poor..
     These have builtin AC and 12vDC Power Supplies. $150 Plus
     shipping.

Please send ZIP with inquiries, so I don't have to presume that I can deliver it by carrying it across the street, or that you are in Antartica.

Eugene Rippen, 105 Donnington, Auburn, CA 95603

From boatanchors@theporch.com Sat Jan 25 15:50:28 1997
From: JOHN_SEHRING.parti@ecunet.org
Subject: HALLI SX-115 AGC
Message-ID: <9701251449.aa06296@pcusa01.ecunet.org>

Jim's comments on AGC design and the Halli SX-115, which started with a discussion of a Halli SX-117 & a Kenwood 820, are interesting. I have not owned an SX-115 but I have handled one.

Two thoughts come to mind on this...

First, the SX-115 uses a dual loop AGC system. The first loop is generated from a point of less than maximum selectivity (prior to the final 50 KHz IF stage), has moderately fast attack and decay characteristics and controls *only* the RF stage. (This loop has its own amplifier to make up for the fact that its voltage is derived from before the final IF amp.)

The second AGC loop is generated from a point of highest selectivity (same place as the detector) using the usual type of diode AGC detector, has moderately fast attack and a choice of fast or slow decay. This loop drives the remainder of the AGC-controlled stages, e.g. IF's.

Note that as a result we get an RF stage controlled by AGC derived from a point of wider bandwidth. This means that off-frequency signals will pull down the gain of the RF stage. This will reduce the chance of cross modulation quite a bit.

The 2nd AGC loop will attempt to compensate by pulling the gain of the IF stages up.

Halli stated that this kind of AGC ct. would increase the cross-modulation capabilities significantly. The SX-115 manual also shows how this AGC ct. increases the apparent or dynamic selectivity of the radio. (I'm not at home so can't check those QST ads and SX-115 manual for details on this.)

The second point is that some of the circuit of the SX-115 is almost exactly the same as the SX-101A (and to a slightly lesser extent, the earlier models SX-101, -100, -96 & S-76). The SX-115 being triple conversion, has an extra mixer stage, but the RF, 1650 KHz IF and 50 KHz IF stages are almost exactly the same as the earlier radios.

I don't know that the SX-115's *static* gain distribution is therefore much different from the others. However, I suspect that the unique AGC circuit may hold the key to its performance.

As the first AGC loop is derived from a point of less selectivity, its potential for quickness of attack is potentially enhanced. But any diode/IF xfmr-derived AGC will still be quite limited in this regard owing to the source impedance of the IF xfmr and the diode load. (See for an example of an AGC circuit that does not suffer from this problem the Drake R-4* receivers. They have an attack time of about 75 microSeconds, which is excellent.)

Fast attack AGC will tame the peak detected amplitude of the usual band background noise transients which will make the receiver sound `smoother'. Such an AGC will also be able to instantly reduce gain on the leading edge of SSB speech or CW characters.

In the decay area, the RF stage will quickly return to higher gain as the 1st loop AGC controlling it has short decay. But the 2nd loop AGC controlling the IF stages has a much longer decay time and so IF stage gain will remain reduced between syllables and words.

As far as lively S-meters, the Halli's have 'em. I like them that way especially on the quieter bands like 10 m where changes in background noise level can be meaningful, e.g. is the band really dead? or is there an S.I.D.?

Some Halli s-meters (in the line we're discussing) don't measure AGC voltage directly (S-76, SX-96, -100, -122). Instead they read cathode or plate current of one of the AGC-controlled IF stages.

On the other hand, the SX-101, -101A, -115 measure the AGC voltage via an S-meter amp, so you can measure AGC voltage even with the AGC switched off.

The RF stage of a radio sets its overall noise figure (sensitivity). It must have gain and self noise levels such that external (antenna) noise is at least about 3 dB more than the radio's self noise. That way, external random noise swamps the radio's own internal random noise and the radio's self noise is not the limiting factor in weak signal reception.

To check this, put a dummy load of proper impedance onto a (properly working & aligned) receiver, with AGC off, RF gain at max, peak preselector or antenna trimer. Measure set's own self noise with an AC VTVM at the speaker terminals. Then substitute an antenna of impedance equal to the dummy load and measure again. The 2nd reading ought to be at least 3 dB greater than 1st reading.

To see if the AGC threshold (the level below which there is *no* AGC action) is degrading the radio's noise figure, repeat above tests with the AGC on. Turning the AGC on with the dummy load connected shouldn't reduce the output noise of the set.

Sometimes, application of AGC voltage is delayed only to the RF stages to avoid degrading the RF amp's noise figure. This less of an issue when using miniature tubes as opposed to earlier types.

I think that in general, with `modern' BAs (is that a contradiction?!), you'll find the radio's to sufficiently sensitive even at the highest HF frequencies.

Gain distribution is quite important. For all signal levels, from barely discernible to very strong, the AGC must operate each stage so that is has enuf gain to let the signal swamp the stage's own self noise but not with so much gain that there is signal distortion.

Some day, I'm going to duplicate the SX-115 dual loop AGC circuit on my SX-100 and SX-101A to see how it plays.

 -John Sehring (01/25/97 9:24 am ET @Midlothian, VA) ucc wb2eqg

From boatanchors@theporch.com Sat Jan 25 20:15:25 1997
From: vancleef@netcom.com (Henry van Cleef)
Subject: Help needed deciphering oscillator circuit
Message-ID: <199701260029.RAA20596@netcom5.netcom.com>

I've been sitting here looking at this RME VHF-152 for the past couple of weeks. I have about four schematics for the local oscillator, and have spent some time redrawing the circuit to show AC paths, DC paths, and differences between versions. Have also spent some time measuring various components. (My Megacycle Meter and Boonton RX bridge are in serious competition for "most useful bench gizzy" award).

Now, first of all, let me point out that VHF-152 and VHF-152A both use the same basic components and layout with a 6J6 triode (one section) as the LO. The remainder of the unit is a 6AK5 TRF amplifier, resistance coupled to a mixer. VHF-152 uses a second 6AK5, 152A uses the other section of the 6J6 and eliminates a tube.

Rider XVII, page RME 17-2 shows the schematic of the 152A for each band, redrawn, and anyone having this manual may follow my questioning by referring to it. I now see that the differences between versions is minor in terms of circuit theory. The circuit I am most concerned about is the 2M circuit, which oscillates over the range 150-156 Mhz.

I can't identify this as one of the standard oscillator circuits (Hartley, Colpitts, tuned grid, tuned plate). I found a description of the Clapp circuit in Orr's "Radio Handbook" 15th ed. (1959) which looks suspiciously close, but I am not satisfied that this is the correct view.

If you've got a sheet of paper, follow me, and we'll do a "connect the dots." The oscillator tube is a single triode, with the cathode grounded, and a 4.7K grid leak to ground to give the grid DC reference.

Power to sustain oscillations is provided by a tradition shunt feed to the plate. There is a 2.5 microhenry choke in front of the plate, with 1000 pf. on the B+ side. This has a series-resonant frequency around 3Mhz by my calculations, so this feed is essentially an AC open circuit for AC analysis, and may be ignored.

The tank circuit is a short silver-plated strap with lots of pf. across it---about 25 pf. In the 152, the variable cap is in parallel with the fixed cap across the coil. Self-resonant frequency, per the megacycle meter, is about 159 Mhz---just above the oscillator frequency. One end of this LC is connected to the grid through a 25 pf. blocking cap. The other end of the LC is connected to the plate through another 25 pf. blocking cap. From the plate end of the LC, running to ground, are a 3-13 pf. trimmer, and the main tuning cap, which measures approx 11-17 pf. on the 250A.

In the 152A, a 25 pf. cap is used across the coil, and a 3-13 trimmer runs across the coil (from grid end) to ground). In the 152, a 10 pf cap and a 3-13 trimmer are both across the coil. This is essentially the same circuits, except that in the 152A, this trimmer is padded by the tuning cap and the other trimmer/padder, in series, so has tamer action.

I'm not sure how to look at this. I've decided that the two 25 pf. blocking caps in the plate and grid circuit and Cgp, with Miller effect, of the tube, can be ignored, although I think they work out to 3-5pf. if I analysed them---large, compared to other circuit constants. Effectively, I can view this as a series tuned LC circuit where the intersection of the L and C are being driven from the plate. However, the low self-resonant frequency of the L part means it is only slightly inductive at series resonance, and this bothers me.

Right now, I have the coil box off the unit (as an assembly) drying off after a cleanup, as I was getting low effective resistances on my first cut at measurements on the RX bridge, and decided that with the amount of dirt that was there, I'd better clean it up first. 100K Rx is a big number at 150 Mhz., but the tuning cap should, I think, be a

lot higher than that. It's obvious from the Megacycle Meter dip that the LC circuit alone has plenty of Q at its self-resonant frequency.

The RME manual does not give any procedure for tweaking those oscillator caps. I am concerned that one of them is not a tuning adjustment, but a drive adjustment. But with all the caps about the same size, and none of them that I can see is "tank" vs. "drive" and vice versa, I'm not too sure which is which.

Taking that coil box off was not entirely a picnic. Like most RME stuff, this thing was built tighter than a tick. However, it needed all of the mica bypasses replaced, which meant unwiring all three tube sockets enough that it wasn't much more work to remove the sockets, the three leads to the tuning caps, and pull the box off. I have to install enough new components when I put it together that I suspect it won't play with the old adjustments, and would like to have some idea of what's what before wiring it all up, then discovering I've got to get at something that's covered up by wiring.

Anybody got any insight into a series-tuned oscillator circuit where the L component is self-resonant just above the desired oscillator frequency?
--
==========
Hank van Cleef
E-mail vancleef@netcom.com or vancleef@tmn.com
==========

From boatanchors@theporch.com Sat Jan 25 20:15:25 1997
From: "Arthur Moe" <kb7ww@transport.com>
Subject: Help with ID LaFayette
Message-ID: <199701252214.OAA09893@butch.transport.com>

Those of you out there with the old catalogs could you help me .

I picked up today a LaFayette TM15A . What I would like to know is when was it forsale and was it called a Field strength meter or a band checker. Also anyone have paperwork???

Thanks
art
KB7WW

From boatanchors@theporch.com Sat Jan 25 10:38:44 1997

From: "Jim Berry" <basalop@eskimo.com>
Subject: I need some tubes ...
Message-ID: <199701250313.TAA09323@mail.eskimo.com>

Hello Tube Fans,

How do I word the title so anyone who has tubes to get rid of will read this message HI

What happened was I had a" folder" full of all kinds of addresses for and from folks who had tubes. In the process of upgrading computers and every other stupid horror story I can come up with, I lost that folder. Here I set, ready to send out a few notes and no TUBES folder. Please, if you have tubes, and want me to bug you about some of them, drop me a note. Right off the top of my head I know I need a 12AV6, 12BA6 for my 5 tube wonder. I need a couple 12SA7's and 12SQ7's for my TCS.

73 Jim K7SLI

Jim Berry K7SLI. QTH: Marysville, Wa (Near Seattle)
Email: basalop@eskimo.com FAX: 360-659-1360
Snail Mail: 5318 142nd PL NE Marysville, Wa 98271

From boatanchors@theporch.com Sat Jan 25 15:50:28 1997
From: rwayne@CTC.Net
Subject: Info on RME Converter Model VHF 126
Message-ID: <32EA85B2.25E1@ctc.net>

Hello Fellow Ba'ers

A RME VHF converter model VHF 126 followed me home from the FrostFest last weekend. It is in a BA receiver size cabinet and appears to be at tunable 6 meter converter with separate converters for 144 MC and 220 MC which each feed into the 6 meter converter.

Can someone in BA land confirm this and also tell me the output frequency of the 6 meter converter?

I would also appreciate getting a copy of the manual and/or a schematic of this unit. I will pay expenses, time, etc.
Thanks.

73,

Richard W4LN
rwayne@ctc.net

From boatanchors@theporch.com Sat Jan 25 15:50:28 1997
From: bjacob@iofc.com
Subject: IS THERE A BOOK...
Message-ID: <199701252139.JAA19604@iofc.com>

Hello BA fans,

Being fairly new to the restoration of old radio gear, I was
wondering if some of you out there might be able to send along the
name of a book or two that might be of help with the gentle art of
bringing these old wonders back to life.

73s,

Jacob
K4HJ

From boatanchors@theporch.com Sat Jan 25 10:38:44 1997
From: J P Taillebois <jpt1@idirect.com>
Subject: Johnson Valliant
Message-ID: <199701251111.GAA09976@relief.idirect.com>

Good morning everyone.

thanks for all the info on the Valliant. I picked one up from a silent key
yesterday.
Was working a year ago. Cosmetically 8.5 one very small scratch on the front
panel but barely noticable all original. Will put it on the bench this week
end and will report on the internal conditions. Seems like the factory
assembled unit.

73 for now

From boatanchors@theporch.com Sat Jan 25 15:50:28 1997
From: Mike Toneri <toneri@ils.net>
Subject: Re: Johnson Valliant
Message-ID: <199701251829.NAA08813@server1.ils.net>

At 10:10 AM 1/25/97 -0600, J P Taillebois wrote:
>Good morning everyone.

>
>thanks for all the info on the Valliant. I picked one up from a silent key
>yesterday.
>Was working a year ago. Cosmetically 8.5 one very small scratch on the front
>panel but barely noticable all original. Will put it on the bench this week
>end and will report on the internal conditions. Seems like the factory
>assembled unit.
>
>73 for now
>
Ah you are one lucky fella to find a Valiant in that condition, Jean-Paul. I
am awaiting hearing it on the air on the boatanchor net. I'm glad you
rescued it from a possibly horrible fate.
73...Mike VE3FGU

****
Mike & Lynda Toneri   E-mail: toneri@ils.net
****

From boatanchors@theporch.com Sat Jan 25 20:15:25 1997
From: bdhall@ghg.net (Benjamin D. Hall)
Subject: Line filters
Message-ID: <32EA6524.1561@GHG.net>

Hiya tube dudes...

Been working on stripping out an old Western Union Telegraph "Microwave
Send Cabinet" that came out of that Western Union Telco microwave site
up in Oklahoma I wrote about two weeks ago. Near the top of the rack
are two round devices marked:

SPRAGUE
FILTER TYPE
20JX35
20 AMP 124 VAC
400 CY
400 VDC 85 degrees C

I think they are line filters, but the 400 CY marking and 400 VDC
marking perplexes me. These racks came from a ground installation, and
unless I am wrong, used 60 Hertz power. Can you use 400 Hertz line
filters on 60 Hz? Why the DC rating?

And if I cannot use them on 60 Hz power, any of you military 400 Hz
types need beefy line filters?

Thanks and 73,
Ben
--

 From the computer of | Collector of fine firebottle
 Benjamin D. Hall, Houston Texas | equipment, as well as other things
 BDHall@GHG.net (home) -or- | involving Earth, Air, Water, and
 Benjamin.D.Hall1@JSC.NASA.gov | Fire.

PLEASE NOTE MY NEW HOME E-MAIL ADDRESS above. My old address,
BDHALL@GHGCorp.com, will still work for a period of time however.

From boatanchors@theporch.com Sat Jan 25 10:38:44 1997
From: Thomas Bowes <bowes@klondyke.net>
Subject: Re: Mystery tubes marked V.T. 90 8-80 105/97B
Message-ID: <32E9779A.17BB@klondyke.net>

Benjamin D. Hall wrote:
>
> Thomas Bowes wrote:
> Hi Tom and list, got the mystery tube in the mail today. *DEFINATELY*
> not a VT-90 which =6H6! Wow, what a cool looking tube. Your check will
> hit the mail tomarrow morning.
>
> Been doing some poking thru my tube cross references, and the best thing
> I can find is that it is a 105 which cross references to a FG105, which
> is listed as a GRID CONTROLLED GAS RECTIFIER. I'm wondering if the heat
> sink might also be the grid connection?
>
> Anyone got any info on this? It is marked 10/45 (date, I think) V.T. 90
> 8-80 105/97B. Made by Amperex. It is a cool looking tube!
>
> Thanks and 73,
> Ben

Ben,

A couple of list members contacted me with various bits of trivia about
that tube at the time when I offered them for sale. Apparently, the
VT-90 designation is a British one. The tube is a triode which was used
in the early English radar sets. My guess is that the finned portion is
the anode and the grid is the little threaded nub on the end of the
tube. Otherwise, given the amount of surface area and the operating freq
the fins would be picking up all kinds of stray signals and feeding them
to the grid.

There are still a couple left if anybody cares to make an offer.
--
"Tom"

Thomas Bowes
KK8M
35332 Churchill
Richmond, Michigan 48062-1179

From boatanchors@theporch.com Sat Jan 25 10:38:44 1997
From: Randy Zelick <h2rz@odin.cc.pdx.edu>
Subject: new GRR-9/R-174
Message-ID: <Pine.PTX.3.91.970124230550.6397A-100000@odin.cc.pdx.edu>

Hi everyone,

Well the deal worked out and for a modest sum I just came home with a R-174. The seller could not remember if it worked or not, but after repairing the power cord, presto! I locked one of the presets to the BBC at 5975 and it is playing very nicely for me as I type.

Amazingly well screwed-together set. It is also completely and heavily MFP'd. Indeed it is somehow perverse that so much engineering went into the rugged mechanical design to house a pretty old electrical design. But hey, it works and is sensitive and sounds very nice.

I am impressed with the touches. Like the R-390 there is a built-in tube pin straightener, tuning tool and weird wrench mounted in holders. There is a parallax-correcting hairline on the tuning dial. Everthing is well labelled on the chassis including all the adjustment points. You get the impression of a set which was really meant to be fixed in primitive conditions by not-so-well trained personnel.

The shock mounting for the tubes is really cool and deserves special mention. The tube section is entirely enclosed by a cover. Mounted to the underside of the cover and thus hanging down from it are tubes shields with shock springs inside them. Thus mounting the cover automatically lowers shields and shock mounts onto all the tubes. In addition all the tubes with flanged bases are clamped in place, as are all tall caps, etc. Despite this it is easy to take the pieces apart (so far as I have investigated) and this speaks well to a very competant mechanical design team.

As I was loading up the beast the seller said, "Oh, I almost forgot..." rummaged around and came up with two original whip antennas (3-section jobs) a shock mount frame and a complete spares kit. The latter item (CY-1031/URR) is a very solid piano-hinged box containing all the tubes in

felt-lined grooves, spare vibrators, and spare fuses. Nice addition.

Interestingly, the set appears to have been made by Emerson, the spares kit came from Zenith. Anyone know who the designer was?

Now just a couple of minor things to round out an almost perfect acquisition...

1. The lamp for the tuning dial does not work. There is a large nut on the front panel labelled dial lamp, which I began to unscrew assuming to find a bulb within. But after a few turns it seemed as though I was winding up a wire or two on the inside. Hmm, not a good feeling. I'll have to do a more elaborate dissection to see what gives. But the spares kit does not contain a bulb -- rats!

2. There is a calibrate position on the mode switch, and it works just fine except there is no obvious way to adjust or compensate the readout according to the calibator! So what gives - it just informs you that the dial is off and tough s..t?

Numbers 1 and 2, above, lead of course to the inevitable request: anyone got a book????

Now I can sweeten this one - any GRR-9 owners out there who just happen to have a spare original manual... Interested in trade (or partial) for a stock 3-section whip antenna??? (Forget the spares case - you can't have it!)

Finally, there was discussion about ARS replacement vibrators a couple of weeks ago. Anyone know the replacement to ask for to get rid of the 100 Hz hum with 110VAC input?

Back to tuning in the swbc,

=Randy=

R. Zelick
Dept. Biology
Portland State University
P.O. Box 751
Portland, OR 97207
503-725-3086, 503-725-3888 (fax)

From boatanchors@theporch.com Sat Jan 25 10:38:44 1997
From: SEAN SALOMON <rhs@pacbell.net>

Subject: New toy, SP600JX-14
Message-ID: <32E99FFA.4C18@pacbell.net>

I just came in to a new toy, a very nice SP600JX-14. The previous owner said it had been sitting in a garage for the last 20 years.

It came in, I think, it's original case. Square perforations on both sides and the top lid. The inside of the case is in wrinkle gray. The outside is smooth gray, allmost the same as the panel of the radio.

After blowing out the inards a bit and wiping of the front panel and knobs with a rag, I looked around on the chasis a bit. Seems all tubes except xtal osc tube present and accounted for. Took a chance, connected up my speaker and fired it up. After about a minute I got audio.

After some crackling, snaping and poping it seemed to settle in to the familear background sound of the HF frequencies. I turned the tuning knob and I got some variation in the S-meter as well as some stations on the speaker. I let it sit for another hour, in which time it went through several more iterations of various noisy periods as switch contacts stretched and shrunk with the heat.

It finaly settled down and I tuned it to WWV. Lo and behold it was right were it was supposed to be. All in all it seems to be working pretty well.

Some questions. Does anyone have an original audio gain knob for this machine? Also, a manual?

And, at the risk of sounding like a complete neophyte, can someone explain how the bandspread on this is supposed to work? After using my R-390A for a while I got spoiled by the frequency readout. On the other hand, what a terrific tuning mechanism the SP-600 has. Silky smooooth. I can give it a spin and it will continue on it's own. It does indeed seem to be the ultimate band cruiser.

I am going to give all the switches a good going over with some DeOxIt, inspect the underside of the chasis and clean it out some more. There is some peeling of the gloss black on the dial windows, so I will clean, prime and paint with the Rustolium Satin Black that I used on the R-390A Large knobs.

Any and all information, advice and/or suggestions in regards to the SP-600 is solicited and welcome.

Regards, Rudy Salomon, KD6NRQ

From boatanchors@theporch.com Sat Jan 25 20:15:25 1997
From: Robert Nickels <ranickel@mwci.net>
Subject: Non-Superhet data
Message-ID: <32EA9C49.3EE3@mwci.net>

Well it's either cabin fever or the recent thread on super vs.
regular-heterodynes that got me to thinking about regens again.
Not the one-tuber homebrew I get off the shelf every winter or the
wonderful Knight Span Master that was my first "window to the world",
but real, honest-to-goodness blue-collar regenerative communications
receivers for HF.

I know that some of you know all about them, and their mystical three-
letter model numbers. I also know that some pretty esteemed members
of this list actually *use* them on HF! Problem is, for those of
us who grew up with Allied catalogs instead of TMs, this is ancient
folklore! Moores books are super for superhets, but are mum on the
subject of regens.

So - could anyone brief us in? I'd be interested in knowing what
the best regenerative HF receivers are, who well they work, and of
course if anyone has one they'd like to get rid of...?

73, Bob W9RAN

From boatanchors@theporch.com Sat Jan 25 15:50:28 1997
From: Rich Arland <qrprich@postoffice.worldnet.att.net>
Subject: Price Needed
Message-ID: <19970125204751.AAE2014@LOCALNAME>

Gang:

I am trying to do a deal with a local for an HQ-110AC with matching speaker.
He wants $110 for both but prefers to trade. His interests are NOT in BA
radio gear but (shudder!) BA audio gear (groan!)

Anyway, I have procured a Fisher X-101C BA stereo amp, all tube, and need to
know what kind of value this piece has and whether or not it would be close
to a fair trade. The amp is about a 7.5 to 8 on a 10 point scale. Several of
the brass colored knob inserts are missing but those are on knobs that are
hidden by the snap down panel onthe front of the amp. The amp plays good and
I feel that it's in the ballpark with the HQ-110AC.

HELP!! Am I outa my mind?

(sorry, Jack, about posting some BA Stereo gear here, BUT it was in exchange
for a BA receiver....gotta gimme points on that one!)

73 rich K7SZ

From boatanchors@theporch.com Sat Jan 25 20:15:25 1997
From: Tom Norris <badger@telalink.net>
Subject: R-390(A) -- who has covers on theirs?
Message-ID: <3.0.32.19970125155523.006888e4@telalink.net>

I have approached a local sheet-metal shop with questions on
building duplicate covers for the R-390. The shop manager
didnt think it would cost much, but wouldn't know until I present
him with a drawing. Anyone out there with actual top and bottom
covers care to make a scale drawing so I might be able to get
some made, or at least get an estimate?

Rick Mish has them for about $100 per set, and while I don't wish to
undercut Rick, I think I can get them fabricated for much less.

****
 Tom Norris KA4RKT
 badger@telalink.net   Nashville, Tennessee, USA

  Eagles may soar free and proud, but weasels
       never get sucked into jet engines.
****

From boatanchors@theporch.com Sat Jan 25 20:15:25 1997
From: bdhall@ghg.net (Benjamin D. Hall)
Subject: Re: R-390(A) -- who has covers on theirs?
Message-ID: <32EA8CDD.3C5C@GHG.net>

> I have approached a local sheet-metal shop with questions on
> building duplicate covers for the R-390. The shop manager
> didnt think it would cost much, but wouldn't know until I present
> him with a drawing. Anyone out there with actual top and bottom
> covers care to make a scale drawing so I might be able to get
> some made, or at least get an estimate?

Hi Tom and list...

This reminded me of a message I wanted to write to BA shortly after I
picked up my R-725. Lon Cottingham and I were chatting about R-390A's,

R-725's and the like, and stumbled on the subject of covers. Lon mentioned his theory of why so many R-390 series receivers are missing covers: According to a manual, and I don't remember which one nor is it written in my users or depot repair manual, if you are using the R-390 series of receivers in an cabinet, you should *NOT* install the unit into the cabinet with the covers on, they impede proper cooling! And of course, when you detach the covers, they get lost, etc, wha-la, lots of R-390 series receivers missing covers today.

I always wondered why my Motorola 14-PH-56 R-390A ran hot when sitting in my rack, duh, I had left the covers on. And I spent about 5 (insert swear words here) hours adding little fans before I heard about the covers.

On that note, is everyone still interested in replacements?

Comments anyone?

Thanks and 73,
Ben
--

 From the computer of | Collector of fine firebottle
 Benjamin D. Hall, Houston Texas | equipment, as well as other things
 BDHall@GHG.net (home) -or- | involving Earth, Air, Water, and
 Benjamin.D.Hall1@JSC.NASA.gov | Fire.

PLEASE NOTE MY NEW HOME E-MAIL ADDRESS above. My old address, BDHALL@GHGCorp.com, will still work for a period of time however.

From boatanchors@theporch.com Sat Jan 25 10:38:44 1997
From: Michael Crestohl <mc@shore.net>
Subject: R-390A Ballast 3TF7 replacement and other ballasts...
Message-ID: <199701251541.KAA21455@northshore.shore.net>

Hello Everyone:

I recall reading somewhere that the 3TF7 ballast tube (resistor?) used in the R-390A is also known as a TJ311MO1. Does anyone know about this?

Also I have three other similar-looking ballast tubes and wonder what they might be - unfortunately I have no docs on them as they are flea-market scrounges....

5TF4

5T4F

1HTF10

Anyone know what these are for?

73,

Michael, W1RC
mc@shore.net

From boatanchors@theporch.com Sat Jan 25 15:50:28 1997
From: Dennis Gibbs <dgibbs@rational.com>
Subject: RE: R-390A Ballast 3TF7 replacement and other ballasts...
Message-ID: <01BC0ABA.61A920C0@floyd.rational.com>

Greetings all,

Michael Crestohl writes:

Hello Everyone:

I recall reading somewhere that the 3TF7 ballast tube (resistor?) used
in the R-390A is also known as a TJ311MO1. Does anyone know about this?

Also I have three other similar-looking ballast tubes and wonder what they
might be - unfortunately I have no docs on them as they are flea-market
scrounges....

5TF4

5T4F

1HTF10

Anyone know what these are for?

First of all, Michael is definitely correct: The 3TF7 is definitely the same as
the
TJ311M01, and vice versa. In fact, I have seen some of these Ballast tubes
from Amperite with BOTH of these numbers on them. Finally, take a look at
TM 11-5820-358-10. This is the Operator's manual for the R390A, dated
16 January 1961. On page 6 there is a picture of what the tubes look like.
RT510 is shown as TJ311M01, NOT 3TF7!

As for the other Ballast tubes you mentioned:

5TF4

My reference shows this having a voltage range of 6.1 - 7.4, and is rated at 550 Milliamps.

5T4F

Don't have any info on a 5T4F.

1HTF10

> My reference shows this as having a voltage range of 12 - 30 volts, and a current rating of 150-165 Milliamps.

In all the above cases, I have no idea what equipment these are used in.

The info on these other Ballast tubes came from The Ballast Tube Handbook, by A.P. Jacobi. I think these are still available from Antique Electronic Supply.

Hope this helps!

Dennis Gibbs
dgibbs@rational.com

From boatanchors@theporch.com Sat Jan 25 20:15:25 1997
From: JBurgwynjr@aol.com
Subject: Re: R390A covers etc.
Message-ID: <970125184951_847034651@emout17.mail.aol.com>

I don't use covers inside my 390/390A cabinets but I suspect many users want covers because they don't have cabinets and want to be able to stack something on top. I find the cabinets harder to find than the covers. In fact, I've never found a table top unit. All of mine are the vehicular type cabinets. John W4WAW

From boatanchors@theporch.com Sat Jan 25 15:50:28 1997
From: Mort Denison <mdenison@postoffice.ptd.net>
Subject: R390A/725 PTO's, Fixes, Restorations, Etc.
Message-ID: <32EA54CA.C25@postoffice.ptd.net>

I've been following the PTO discussion with great interest. I've got an old R390A Collins, SN723, 8719-P-55. When I got it 8 or so years ago, it was in a 'disarray'. Someone had hacked the IF - wiring changes,

added a relay, etc. A friend, nuclear engineer at Auburn University, had, I think, five of these beasts.

He had me bring mine into the nuc lab where he showed/taught me many mysterious things in an afternoon. I'd procured spare IF decks - we installed one and wondrous things appeared at the speaker. We replaced a couple bad rocks and peaked up the RF deck.

That winter I spent numerous weekends figuring out how to use a URM-25D, meter and the manual in aligning the rascal.

The PTO was Collins, but the end points were off. I pulled the dust cover and saw the myriad of tiny screws. Oops, pulled the other dust cover and found the end point adjustment screw. Tiny. Tool an 1/8" wooden dowel, pulled the tip from a small jewelers screwdriver, drilled a hole and epoxied the tip in the hole. Spent a couple hours twiddling until the endpoints were right on. 6 years later, they're again slightly off two small scale divisions (400 cycles?).

Its not linear. There's about a 1KC bow midway. I guess the bunch of small screws would adjust that - not willing to go that route, 'tho.

The manual does not mention the small can next to the tube. In fact, I've noticed on several other PTO's that the adjustment slug shaft is loctited or somesuch. Wonder what it does - or would it break if I tried turning it.

I've also got a Cosmos PTO whose dust caps and adjustment screws are identical to the Collins PTO. I've adjusted the end points on it as well. Also has a bow in the linearity.

My R725 is next. Unfortunately, an unpainted metal wrap has been glued around the PTO. Can't tell the make. Wonder why the sheet metal was installed.

I'm repainting several of the knobs on both units. Boy, that was sure some good paint. Several brands of paint thinner refuse to recognize it as paint. A dull screwdriver and time will remove it however. Seems like Rustoleum Satin Black, and warming in the wife's oven (boy does that make her mad) at 200 for 15 minutes makes for a nice looking knob. Typewriter White-Out (thanks BoatAnchorites) finishes it up.

The R725 has an annoying hum when turned on. Appears mechanical - not from the speaker. It took a knock sometime in its life in the back near the C103 FL101 cap and RFI filter. Got them coming from Fair Radio - bet thats the problem, I hope.

The R725 is magnificent - probably because it's my latest acquisition.

The only replacements upon receipt where a couple IF tubes and one of the RF cans whose trimmer cap was bad.

Speaking of which, the tech manual does not mention the front trimmer in the RF deck in the cans where theres a cap-coil-cap. I've noticed that at lowere freqs twiddling it does not make much difference - higher freqs, the associated trimmer does. Wonder what the correct way to set them is.

On the crystal deck is another can - again nothing in the book about adjustments. I set it for max output on a random band. Anybody know the 'right' way?

Found a couple twinax to 'C' adapters for RG-58. Seems the balanced antenna is recommended for use. Boy, they were tough to come up with.

The manual states that the top and bottom covers as well as most of the tube shields should be removed in normal environments. If anyone's interested I can post which shields should be left in place.

Now If the front panels were gloss black as someone said they had theirs painted. Anybody know anyone who can do that and reletter same?

Good listening,

Mort Denison

From boatanchors@theporch.com Sat Jan 25 15:50:28 1997
From: Mort Denison <mdenison@postoffice.ptd.net>
Subject: R390A/725 Tube Shields
Message-ID: <32EA7C0C.1212@postoffice.ptd.net>

Several had responded to my earlier post concerning tube shields which could be removed.

For the R390A:

>From the Organizational Maintenance Manual TM 11-5820-358-20: Page 4 - If the receiver is to be used in a fixed installation, remove the shields from all tubes except V201 through V206, V505 and V701.

Unless extremely dusty conditions are expected, do not replace the top and bottom dust covers (or operated in a cabinet).

For the R390:

>From the Organizational Maintenance Manual TM 11-5820-357-20: Page 3 -

Exactly the same including the tube designations.

Same would go for the R-725, then.

BTW, I've also got a tech order, T. O. 31R1-2URR-507 dated 11 April 1966, which describes a modification or the R-390 and R-390A audio module to eliminate spurious radiation. The units I have either were modified or built after this tech order.

R390 - Unsolder and remove the jumper lead connected between pin 2 and ground of XV603. Connect and solder a 22AWG wire between pins 2 and 7 of XV603.

R390A - Unsolder and remove the jumper lead connected between pins 2 and 4 of XV603. Connect and solder a 22AWG wire between pins 2 and 7 of XV603.

I reverified that my R390A is a Collins PTO, at least that's what the label says and has the two dust caps for adjustment.

From boatanchors@theporch.com Sat Jan 25 20:15:25 1997
From: K5AM <k5am@lascruces.com>
Subject: Ranger; 1614 vs 6L6
Message-ID: <1.5.4.16.19970125215811.0ddf56b8@lascruces.com>

Ranger; 1614 vs 6L6

>From the RCA tube manual, #RC-29, 1973, p. 584:

****
1614 * ... For other characteristics, refer to 6L6 ...

*Industrial type

****

So it's official!

From boatanchors@theporch.com Sat Jan 25 20:15:25 1997
From: Sandy W5TVW <ebjr@worldnet.att.net>
Subject: Re: Ranger; 1614 vs 6L6
Message-ID: <19970125224920.AAA3087@LOCALNAME>

At 10:02 PM 1/25/97 +0000, you wrote:
>
>Ranger; 1614 vs 6L6
>
>>From the RCA tube manual, #RC-29, 1973, p. 584:
>
>***
>1614 * ... For other characteristics, refer to 6L6 ...
>
>*Industrial type
>
        Been using the 6L6 instead of the 1614 for years! Also the "glass" 6L6's. Best of the lot is the 5881 or the 6L6GC. These work in the Ranger 2 as well instead of the "unobtainium priced" 7027's.

73,
E. V. Sandy Blaize, W5TVW
"Boat Anchors collected, restored, repaired, traded and used!"
417 Ridgewood Drive,
Metairie, LA., 70001
ebjr@worldnet.att.net
Looking for: Hallicrafters SR-75, 860 tubes
Butternut HV2V antenna, G-R test gear.....*

From boatanchors@theporch.com Sat Jan 25 20:15:25 1997
From: Mike Sanders <k0az@i1.net>
Subject: Re: Ranger; 1614 vs 6L6
Message-ID: <3.0.16.19970125165512.2d9733ce@i1.net>

The same pair of 6L6s has been in the modulator of my Ranger for about 7 or so years. Suspect they will be there a long time to come. Got new RCA 1614s in wait for when the FDA tells us 6L6s are hazardous to the health of our young Rangers.....73, Mike K0AZ

At 04:01 PM 1/25/97 -0600, K5AM wrote:
>
>Ranger; 1614 vs 6L6
>
>>From the RCA tube manual, #RC-29, 1973, p. 584:
>
>***
>1614 * ... For other characteristics, refer to 6L6 ...
>

>*Industrial type
>
>**********
>
>So it's official!
>
>
>
>

From boatanchors@theporch.com Sat Jan 25 15:50:28 1997
From: W9FS@aol.com
Subject: Rhodes & Swartz BA
Message-ID: <970125152921_647191022@emout19.mail.aol.com>

A real BA, I have a friend who would like to sell a Rhodes & Swartz 400W transmitter straight out of a German Sub. He believes it tunes from 3-7 mhz AM & CW. He wants to sell it local pickup only (bring your own forklift). He is asking $100.00 or call him and make him an offer, Oh! he has the manual and some spare tubes. His name is: Don Madison, His Phone number is 219-489-2700

TNX. Jerry W9FS

From boatanchors@theporch.com Sat Jan 25 20:15:25 1997
From: vancleef@netcom.com (Henry van Cleef)
Subject: Re: Sargent Question (major blunder by me)
Message-ID: <199701260044.RAA21534@netcom5.netcom.com>

I answered this yesterday, beginning as follows, and boy did I get it wrong. I'm posting a correction before somebody blasts me on my inability to get anything straight (nobody has commented thus far).

As Henry van Cleef discourses
>
> As ARONGV@aol.com discourses
> >
> > Do any of you have any experience with a Sargent 21 MA general coverage
> > receiver?
>
> Seems to me I've seen this posted several times over the past few
> days, without any responses.
> I have never laid eyes on one of these sets, and only have the
> information that is in Moore. 21Ma per Moore is Marine band thru 21
> Mhz. From the original price and tube complement, it looks like a
> low-end 9-tuber that may perform on a par with a Halli S-20/S-40.

> Original price indicates inexpensive components used in construction.
> >

I later had occasion to look at the Moore listing again and realized
that I answered in terms of the 20-series, which looks like a
relatively low-end set.

The 21 series, sez Moore, is a different kettle of fish. 12 tubes,
not 9, with a regenerative RF stage having a separate LO. Dunno what
to make of that, except to say that Halligan seems never to have put
one in production, and it's not entirely Lamb's approach to "single
signal." Might be an interesting study---but then again, might be a
bear by the tail, too.

Of course, lots of us have the Moore book, and I am certainly not
adding anything by commenting here, because I don't know anything
beyond Moore's description.
--
==
Hank van Cleef
E-mail vancleef@netcom.com or vancleef@tmn.com
==

From boatanchors@theporch.com Sat Jan 25 15:50:28 1997
From: Rich Arland <qrprich@postoffice.worldnet.att.net>
Subject: Schematics needed for MORADCO CM-3 & Ameco CPO
Message-ID: <19970125204751.AAD2014@LOCALNAME>

Gang:

In dire need of schematics of SAMS on the Moradco CM-3 CONELRAD monitor and
the AMECO Code Practice Oscillator. Anyone out there that can help?

73 rich K7SZ

From boatanchors@theporch.com Sat Jan 25 10:38:44 1997
From: vancleef@netcom.com (Henry van Cleef)
Subject: Re: Scopes - never used one!
Message-ID: <199701250312.UAA14564@netcom8.netcom.com>

> Hello Everyone:
>
> In the thirty-odd years I've been playing with this junk I've never used
> an oscilloscope for troubleshooting.

>
> I am not an electronics technician and learned just about everything I
> know about radio by trial-and-error.
>
> Last year I bought a Tektronix scope at a
> flea market but it sat around and did nothing because I did not know how
> to use it.
>
> I would like to pick up a basic scope one of these days but unfortunately
> know very little about them to know what to get to do the job I need done.
> Since I've lasted 30+ years without using one it is not really a top
> priority.
>
I saw this a while back and didn't answer it because I thought someone else might have some good literature on how to use your scope effectively. I suspect that there are others on this list who feel the same way about scopes. Yes, I commented that I didn't grab for the scope first off when doing troubleshooting, but that doesn't mean that my scopes aren't workhorses around here.

Stan may have some better ideas---I think Tektronix published some material on how to use your scope, but I am not familiar with it.
>From a personal perspective, I started using a scope back in the mid-forties---a real Western Electric low performance wonder, so can't remember just what I did or how I learned to use it effectively---other than experimenting with it to see what it would do. Rider's "The Cathode Ray Tube at Work" is a 1935 publication---my copy is 1942---and since that kind of scope was my starting point, I think it has some good stuff in it.

I think that having a working scope on your bench is the first thing. What's the thing do? It has a vertical section, which typically is used to display voltage on the vertical axis of the CRT. It has a horizontal section, typically used to sweep the trace horizontally in time, so that that you get a picture of voltage vs. time as a graph. Early scopes used a free-running repetitive sweep, with synchronization to the vertical signals. Tek scopes use triggered sweep; i.e., the vertical signal is used to trigger the sweep in most cases. In either case, what you see on the CRT is a graphic display of what is going on in the circuit. To get familiar with your scope, turn it on, and use the calibrator to learn how to trigger the scope, set the time base and vertical controls, etc. Once you are familiar with that, take some working equipment and use the scope to look at signals in it. Once you are familiar with what things normally look like, you can use your scope effectively to find audio hum and distortion, look at RF waveshapes, etc. I think you'll find that as you use your scope and get more comfortable with it, you will start using it for more and more things. The later (i.e., post-1960) blue

8-1/2 X 11 Tek manuals give a lot of basics, so that you can get set up and start using your scope fairly quickly. The earlier green manuals are a little more hazy, but the information is in there.

--
==========
Hank van Cleef
E-mail vancleef@netcom.com or vancleef@tmn.com
==========

From boatanchors@theporch.com Sat Jan 25 10:38:44 1997
From: Michael Crestohl <mc@shore.net>
Subject: Re: Scopes - never used one!
Message-ID: <199701250937.EAA29224@northshore.shore.net>

Hello Hank:

Actually I your messags is the only one I received re: the above post and I thank you for it. The problem is that when I was a "Johnny Novice" up in Canada in the 1960s equipment was hard to cme by and costly. There were very few hamfests as we know the today. Our club had a sem-annual auction of stuff and I usually blew my budget on parts - tubes, etc, or components for building. I just didn't have the $$$ for a decent scope. So I learned how to troubleshoot using a V-O-M, the schematic and my head. Worled well for me back then and it still does because I'm still workingon the same kind of equipment.

Now that there are plenty of hamfests and flea markets the choice of scopes is confusing to me and I don't know what I need to do what I want to do with it. So I still don't own a scope.

Kinda funny when you think of it.....

73,

Michael Crestohl, W1RC
mc@shore.net

From boatanchors@theporch.com Sat Jan 25 10:38:44 1997
From: Jim Garland W8ZR <4CX250B@miavx1.acs.muohio.edu>
Subject: Re: Scopes - never used one!
Message-ID: <v03007801af0fb1a269c1@[134.53.65.12]>

>Now that there are plenty of hamfests and flea markets the choice of

>scopes is confusing to me and I don't know what I need to do what I
>want to do with it. So I still don't own a scope.
>
73,
>
>Michael Crestohl, W1RC
>mc@shore.net

Hi Mike,

I think there are a lot of hams in your situation. Many hams hear all this talk about how great oscilloscopes are and how a scope is the most essential piece of test equipment, etc., but to them an oscilloscope seems to be just a confusion of knobs and dials.

Worse, I've known many folks who, swayed by all the rhetoric, finally bought a scope at a hamfest. However, after turning it on, twisting some knobs, and loocking at the trace a few times , they just let it sit uselessly on their workbench. I'd hazard a guess that a significant fraction of the oscilloscopes one sees for sale at hamfests are from owners who never quite figured out how to use the darn thing.

So the problem for many of us, therefore, is how to overcome the initial learning barrier. An oscilloscope really is a wonderful instrument which, properly used, can provide an unmatched insight into the workings of a circuit. Furthermore, one doesn't have to be an engineer or technician to use and appreciate one. The challenge is how to get to the point where your oscilloscope becomes as intuitive as your VTVM -- something you instinctively reach for when confronted with certain kinds of problems.

I'm not going to try here to give a tutorial on oscilloscopes. (However, I will try to locate some good introductory information on their use and post it on the list.) Let me take this opportunity instead to answer three questions commonly asked by folks like yourself-- hams intrigued by oscilloscopes, who know they ought to be using one, but who aren't quite sure what they're used for and how to proceed.

1. What kind of scope should I buy?

My advice (which I realize not all will agree with) is to keep it simple. Just as a beginner finds it easier to understand a one-tube regenerative receiver than the latest Watkins-Johnson DSP synthesized whiz-bang, so you shouldn't bite off more than you can chew. Modern oscilloscopes come in an astonishing range, and only the most sophisticated engineers really can use those at the upper end of the spectrum. You can spend $100 on a perfectly acceptable fleamarket oscilloscope, or you can shell out $30,000 (or more) for one which has features that most of us can't even pronounce, much less understand..

Many hams, contemplating their first scope purchase, get themselves

into trouble by letting the frequency response be the determining factor in their decision. If they have a 2 meter rig, for instance, then they look for a scope that goes up to 150MHz.. Unfortunately, the higher the frequency response, the greater the complexity of the scope. Furthermore, most oscilloscopes intended for use at VHF or UHF frequencies are quite inconvenient to use at lower frequencies, and it is at low frequencies that you'll mostly use your scope. Here's my own breakdown of how I use my oscilloscopes:

40% -- DC voltages (power supply voltages, AGC voltages, bias levels on tubes, etc.)
20% -- audio frequency voltages (hum or ripple , a.f. amplifiers, detector outputs, TTL logic, etc.)
20 % -- waveforms from 50kHz-1.0MHz (I.F. stages, xtal calibrators, etc.)
10% -- waveforms from 1.0MHz - 15MHZ (VFO s, xtal, scillators, first IF stages, r.f stages)
5% --   waveforms from 15-30MHz -- r.f. stages
5%   --   30Mhz and above, pulses, other special applications

In other words, the single biggest use I make of my scopes is to look at d.c. levels! Obviously, I could use a VTVM for the same purpose, but I have more confidence that the scope is showing me what's really going on with the circuit. My point, however, is that you really don't need a high frequency oscilloscope for the large majority of ham applications. Furthermore, few if any of these applications require delayed sweeps, dual time bases, multi channels, etc. These features can be nice for experienced users, but are merely obstacles for beginning users.

I'd recommend a first oscillocope be a low frequency model, say 5-20MHz, or thereabouts. One of the easiest and most fun scopes to use is actually an audio frequency scope (an HP 1200B), so even if you limit yourself to that frequency range you won't be making a big mistake; you'll still get plenty of use out of it. You can always upgrade later, as your experience grows.

Don't confuse simplicity with quality, however. I'd advise you to pick up a good Tektronix or HP scope, and avoid the Heathkits, Eicos, Dumonts, B&Ks, etc. Not that some of these aren't good values, but they're not the precision instruments of the Teks and HPs. Since you're going to have to be fighting the initial learning curve, you won't want to struggle with unstable triggering, drifting displays, and poorly calibrated deflection amplifiers. Don't make your chore harder on yourself than necessary.

(And by the way, it doesn't really matter whether you get an older vacuum tube Tektronix scope or a more modern solid state job; they'll all do a fine job. I prefer the later scopes because my workbench is so crowded, and I like the fact they warm up quickly. However, there's an undeniable cachet

to the old Tek boatanchors, the insides of which are works of art. You won't believe the Tektronix version of the humble terminal strip, until you've actually seen one!)

2. What should I look at with my scope, when I first get it?

I'd advise you start by measuring some d.c. voltages. Try measuring some battery voltages, and keep at it until you figure out how to read the battery voltage on the display. Then, try measuring some power supply voltges. Once you can use your scope as if it were a VTVM, then you've mastered a big part of the challenge.

Next, measure some audio frequency voltages. Look at hum signals, or output from a sine/square/triangle wave generator. It won't do you much good to look at the A.F. output from your receiver, however, since the waveform is too complex for you to lock onto. You'll need to master the triggering concept on a stable waveform. One of the hardest concepts for beginners to understand is how triggering works, and how to stabilize a trace.

Lastly, start looking at r.f. waveforms. Here's your chance to explore the frequency response of your scope, to see how much it loads down oscillators, etc.

3. How long will it take to get comfortable with my scope?

If you've got someone to help you, plan on about 2 hours of instruction, with another few hours of experimentation on your own. At that point you should have an idea of how a basic oscilloscope works. However, you still won't be very comfortable actually using the scope at your bench. Ideally, you then should plan on watching over the shoulder of someone actually using a scope to troubleshoot a circuit and who will take the time to explain what he's doing.

If you don't have somebody to instruct you, don't be dissuaded. You can pick all this up on your own, but you'll have to do some reading and it will take a bit longer. As I said, I'll try to come up with some good introductory references on the subject.

73,

Jim Garland W8ZR
4CX250B@MIAVX1.MUOHIO.EDU

From boatanchors@theporch.com Sat Jan 25 15:50:28 1997

From: Joe Eide <jeide@eau.net>
Subject: Re: Scopes - never used one!
Message-ID: <32EA6521.989@eau.net>

Jim Garland W8ZR wrote:
       and
Hank Van Cleef wrote:
>
>

     Thanks for your comments on this subject. Both of your comments were right on the mark. A simple, limited bandwidth, late model scope like the Tektronix is much less intimidating and will serve the majority of BA needs. New scope users will be turned off quickly by an uncooperative piece of test gear. Your focus should be on the BA that you are working on and not on an unstable or hard to interpret tool.

     Thanks again guys, for your accurate comments.

     Joe Eide - KB9R jeide@eau.net

From boatanchors@theporch.com Sat Jan 25 20:15:25 1997
From: Mike Sanders <k0az@i1.net>
Subject: St. Louis, MO Winterfest
Message-ID: <3.0.16.19970125164836.2af7363a@i1.net>

Greetings All,
   Another good crowd on a really cold January day in St. Lou. Single digit temps with blowing winds and light snow flurries could not slow the hamfest fever this time of year.
   Saw a fair amount of BA stuff. Some of it was pretty nice. I cannot remember all of it or prices but will list some of the highlights.

A Drake B line in very clean condx for	295	
C line	400	
Beautiful SR150 by Hallicrafters	250	I was really tempted!!
Racked up restored RAS (I think) with speaker rack, supply rack and coil box rack. 6 or 7 coils	150	Can't believe I didnt do it!
Very clean DX100	150	
Very clean Viking 1		
Very clean CE 10 or 20 with 458 vfo		
R4B clean	150	
Beautiful SP600JX1 (Ron K5GIT)	200	
HRO50T1 no coils	100	
NC183	100	I think
S38 Halli		
SW54 National		

SX111 Halli
Johnson TR switch (came home with me)
Nice HQ180 (Ron K5GIT) sold but not sure of price
Very Clean SB101 Heath
Nice HW100 with both supplies and book 75 (went home with the seller)???
Like New Collins 30L1 600
Several Heath Lunchboxes

A lot more stuff that I cannot remember. I was not there on load in day and suspect that I may have missed seeing some pre hamfest transactions of BA stuff. Mike Marx of SND tubes was there and selling tubes. I noticed he had the 6LQ6 variety sweep tubes of NOS American types for 25 each. That seems to be a bit of moderation in prices for those tubes. Mike is going to be moving his email address soon but will maintain his web page at http://www.i1.net/~tubes/ He has most everything and will ship. Right now his email is tubes@i1.net.
Saw several list members and one or two ER contributors while there. I took nothing to sell and only a small amount of cash. Wanted to relax, enjoy and visit for a change. Ended up buying two truck (Ford Explorers) loads of books. My garage is full of em. Radio, Radio and TV News, Electronics, QST, CQ, Callbooks, Handbooks, TM manuals, I dont even know yet. From the 30s to the 70s.

Got to visit and have dinner with Ron K5GIT Thursday evening here and then had lunch with him on Friday. We split a table but since I had nothing to sell I spent a lot of time out and about. Probably not as good for Ron as it was for me with his long drive up here. Think our Thursday night swaps made his trip worth it though. The KWS1 and 51J4 he left sure brightened up my old garage. hehehehehh..... Had fun and looking forward to the next one. Now I gotta get back to work in the garage. My back is really hurting and I have only scratched the surface on my book buy.

73, Mike K0AZ

From boatanchors@theporch.com Sat Jan 25 10:38:44 1997
From: lsmith <ckvnfm@mb.sympatico.ca>
Subject: TMC Info Neded/My Lucky Day!
Message-ID: <32E9851D.41E9@mb.sympatico.ca>

Hi Volters!
In a classic example of "right place, right time," I was able to get a TMC Pal 500 amplifier (2 4cx-350's), power supply (very heavy), and best of all, a TMC synthesized exciter model MMXA-2!
This will be my main boatanchor tx to go with my RA-17 and HQ-170A. Since it handles AM,CW,SSB, and almost every other mode known to man and

beast, I am highly anxious to get it into operation so that I can join you fellows on AM!
PROBLEM....I need to get a manual and schematic for the MMXA-2 exciter, which I am thinking will be a pretty tough assignment.
BUT...you fine folks have come through with some amazing feats in the past, now lets see if I'm asking for the moon!
Will, of course pay any fees required, or will swap a copy of the manual for the PAL-500 amplifier and power supply for a copy of the exciter manual.
I look forward to hearing from you.
73 de
Lee Smith,
VE4ANC
110 Senecal Drive,
St. Francois Xavier,
Manitoba,
Canada
R4L 1A9

From boatanchors@theporch.com Sat Jan 25 10:38:44 1997
From: "F r6fqHo!ht" <75121.100@CompuServe.COM>
Subject: V.T.90 tube
Message-ID: <970125070614_75121.100_IHV51-3@CompuServe.COM>

Hi all!
     Seems that there is some problems with tube numbering systems. The tube in question, a V.T 90 is a British Post Office (V.T. =Valve, Transmitting) series number. It crosses to a CV1732 which is a British Military (Common Valve, CV and is akin to our JAN Mil tubes) and the commercial equivalent is a ML4.
     I don't have references to the VT or the CV tubes, but the ML4 is a Triode. 4 volts at 1 amp.   Its base is a 5-pin socket, 1-plate, 2-control grid, 3-4 filaments, 5-cathode. The tube pin numbers are not in sequence, either. The pins are in somewhat a cross shape. The center being pin 5. bottom is 1, top is 2 and 3 & 4 being left and right respectively. Probably made by Marconi.
     Probably more than anyone ever wanted to learn about V.T. tubes.<g>

Regards from Hawaii,
Raymond J. Cote

From boatanchors@theporch.com Sat Jan 25 15:50:28 1997
From: Joe Eide <jeide@eau.net>
Subject: Re: Viking Valliant
Message-ID: <32EA5E39.2AC5@eau.net>

Joseph W Lutz wrote:
  If list interested in total equipment/sales figures I
> will type up and put on the list.

I certainly would appreciate sales figures on the EFJ gear!

Joe - KB9R

From boatanchors@theporch.com Sat Jan 25 20:15:25 1997
From: "F r6fqHo!ht" <75121.100@CompuServe.COM>
Subject: Western Electric amplifiers
Message-ID: <970125222909_75121.100_IHV67-1@CompuServe.COM>

Gang, more info on the amps for sale.

I have two of the units at home and the tubes used are WE brand 2 ea of the 404A, 2 ea of the 407A, in the amplifier and in the amp limiter are 2 ea 407A and 2 ea 418A tubes.

The 404A is a miniature pentode for use in hi gain VHF amps and is similarly crossed to a 5847 tube.

The 407A is a miniature double triode having separate indirectly heated cathodes, for low frequencies up to VHF. It is a 396A/2C51 with a 20 volt heater. Both the above are 9-pin miniature styles.

The 418A is a short fat power tetrode used primarily in broadband and IF applications. It utilizes a 9-pin architecture, but the 9-pin socket is the size of an octal socket. All tubes are shielded with IREC type shields.

All the interstage coupling transformers have tunable slugs, which, depending on the frequency, should be usable for something. The WE tube book says the tubes are ok from audio to VHF, but think these amps are or were, used around 1 meg. If I remember correctly, the carrier freq for the underwater cable is 850 khz to 1.1 mhz and the amp response is flat throughout. I didn't want to strip these as there are so many usable parts and tube sockets intact. I suspect that all the tubes and parts are ok as the system was working until the minute we shut the power off in Guam. Then the equipment racks were shipped back here to Honolulu. I am now stripping the racks and keeping module and chassis parts intact, selling them individually. There are many types, some with vertical metal capacitors, (around 150 volt max), filters, impedance matching (50 to 75 and/or 75 to 50 ohm) transformers, and much that I have not identified yet. I will pull any of these, including the horizontal reading 250ua meters that are rack mounted.(3 side by side.) Any chassis or module, including the meter modules are $5.00 plus shipping. I already have 3 or 4 orders and will get to those this weekend. Any others that want complete units, let me know before too long via e-mail. I will have schematics for these also in the near future, and will send copies to all who respond with a purchase. I cannot get the paperwork beforehand as they are in the archives in New Jersey and have to be retrieved later this spring.

I still have a few DC u-a meters that are horizontal reading. They are 3.5" wide and 1.25" high (hole size), and 1/4" wider ears on each side to mount. They are center reading meters, 250 ua dc, They also have a zero adjustment lever on the lower side to facilitate easy zeroing.

The manuf is International Instruments Inc., Orange, Connecticut.

They are marked zero in the center and +1 and -1 at opposite extremities. The label on the face says pilot-db, which was the pilot signal for the underwater cable to Guam.

I can only use a few, so the rest are up for grabs. I will sell at $5.00 ea plus $190 shipping or 2 for $10 shipped. Send E-mail with your needs.

Oh yes, some are still mounted in a 19" rack, 3 side by side and under them is a small meter with electrical contacts for the needle. This meter is about 1.5" square and is recess mounted, flush with the front panel. Contacts are at the min and max travel of the meter needle and can be used to trigger an audible or light alarm. I will sell the panel and three meters shipped for $12.00.

2. I also have some old tubes that were used by AT&T left, They were made by Western Electric for the AT&T cable system. It is a type 310A and are pulls from an AT&T system for the SD underwater cable from Guam to Makaha, Hawaii and from Guam to Japan. These tubes are the old hourglass shape and include the 6-pin socket, surface mount type. the tube also has a full height shield shaped like the glass and comes apart to see the tube. They were used as voltage amplifier pentodes, (44 db gain) and are similar to the RCA 1603, since discontinued and also similar to the 6C6. They were produced into the late 70's and still used by phone co in the 80's.

I will get rid of these for $5.00 ea plus $1.90 for shipping. Socket, shield and the tube. Oh yes, I also found some of the same type that have no shield, but come with a ceramic socket that can be mounted on stand-offs or in the thru-hole configuration. It also has 2 vertical rods on which is mounted a hold-down device which keeps the tube from vibrating loose. Your choice.

Regards from Hawaii,
Raymond J. Cote

Regards from Hawaii,
Raymond J. Cote

From boatanchors@theporch.com Sat Jan 25 15:50:28 1997
From: Ho4bart@aol.com
Subject: what about recurrent sweep, bottomend scopes?

Message-ID: <970125131413_-2113173615@emout04.mail.aol.com>

what to do with these older scopes? i can see if it's a really old
National scope, it has some historical value. but what about the
bottomend scopes one ends up with cuz they're so cheap? the
sweep on some go up to 1 or 1.5 mc/s, so you can look at some
RF, maybe to 5 mc/s. but the recurrent sync sweep scopes are
a pain to look at rf with, i believe. the higher end scopes are so
much more practical, are these older lower end ones just parts/
tubes sources?   some of the older test equip is really really
cheap and practically unsellable if you want to dispose of it. at
meets i have been at for example the HP-400 can sell for $3-15.
of course you can add a zero to this price if you want to buy it
from a catalog.   hue miller

From boatanchors@theporch.com Sat Jan 25 15:50:28 1997
From: "Roberta J. Barmore" <rbarmore@indy.net>
Subject: Re: what about recurrent sweep, bottomend scopes?
Message-ID: <Pine.SUN.3.91.970125142621.6648B-100000@indy2>

Hi!

On Sat, 25 Jan 1997 Ho4bart@aol.com wrote:
> what to do with these older scopes? i can see if it's a really old
> National scope, it has some historical value. but what about the
> bottomend scopes one ends up with cuz they're so cheap?

   For folks who run AM, this'n's *easy:* use them for mod monitors! If
you're running more than QRP, all it takes is a basic scope: power supply
and CRT. Add some blocking condensers & attenuator networks and hook mod
out & RF out up to the deflection plates through them, and you'll have
wonderful trapezoidal patterns, from which a great deal of information on
modulation percentage and quality can be gathered.

   The classic (and slickest-looking for my money) way to do this is to
use one of the Millen or National basic 'scopes, but most of the cheapies
can be suitably jeeped. [Anyone got a notion where "jeeped" came from in
this context?]

   Caveats--you *do* have to know what you're about. The voltages one
encounters in 'scopes will reach right out & touch you! Often the
centering controls put high potentials on the deflection plates that must
be blocked from the inputs. (At least one of the big old Tek behemoths
had bannna jacks & jumpers for direct access to the plates under an
often-missing cover, and brushing against them would at minimum knock you
into the middle of next week! But that's not a candidate for this mod

anyway, just a cautionary tale).

One might wonder about using some 2 Mc/s toyscope to look at HF AM sigs in this way, but it's not the 'scope tube that limits the freq, it's the amps +c driving it. John W. Campbell*, in a '50s "CQ" article, describes his VHF bench 'scope, little more than a tube and power supply. He ran at reduced HV to get better deflection sensitivity at the expense of brightness--most HF AM applications won't need such dodges. (And you can leave the Chevy in the garage--or am I nattering again? It's that Nash Carl found, and the '30s Willy panel delivery from contemporary QSTs I'd love to clone that did it).

Candidates for such mods should be evaluated carefully. There's no sense tearing up a real oldie of historical import when so many mass-produced junkers can be found! It should be possible to make the mods in a reversable manner in most cases.

73,
--Bobbi

---

* Yes, that John W. Campbell, editor of "Astounding," later "Analog." The few articles he wrote for CQ should be required reading in electronics courses, as they're both interesting and educational. Of particular merit is one titled "But -- I measured it" or similar, which treats problems of measurement and why what the meter says isn't always right in practical detail.

From boatanchors@theporch.com Sat Jan 25 15:50:28 1997
From: vancleef@netcom.com (Henry van Cleef)
Subject: Re: what about recurrent sweep, bottomend scopes?
Message-ID: <199701252058.NAA02687@netcom13.netcom.com>

As Ho4bart@aol.com discourses
>
> what to do with these older scopes? i can see if it's a really old
> National scope, it has some historical value. but what about the
> bottomend scopes one ends up with cuz they're so cheap? the
> sweep on some go up to 1 or 1.5 mc/s, so you can look at some
> RF, maybe to 5 mc/s. but the recurrent sync sweep scopes are
> a pain to look at rf with, i believe. the higher end scopes are so
> much more practical, are these older lower end ones just parts/
> tubes sources? some of the older test equip is really really
> cheap and practically unsellable if you want to dispose of it. at
> meets i have been at for example the HP-400 can sell for $3-15.
> of course you can add a zero to this price if you want to buy it
> from a catalog. hue miller

>
Well, with the prices of Tek scopes what they are these days, I wouldn't go around buying Heaths, Eicos, or RCA's. If you have one of the latter, go ahead and use it. Any scope is better than no scope, and a lot of very good oscillography (as it was called) was done with very low performance (compared to Tek 514 and 531) scopes over the two decades when these were about the only act in town.

You want to watch out for 2X2 power supplies. These may only be on the order of 800-1200 volts, but they pack a real wallop and will kill you quite dead right now. The same comment holds for Tek "low voltage" power supplies, which can supply on the order of an amp or more at 350-500 volts long enough to do some serious damage.

I think of an RCA 158 as a typical older scope. The horizontal and vertical amplifiers were AC coupled, had very limited bandwith. Relaxation tube sweep was not particularly linear. A really sick one could be a nightmare to fix. You can use a scope like this as a modulation monitor, or for doing Lissajous figures, and it works quite well on AC mains frequency stuff.

On the notion of "cheap test equipment," the $3-$15 HP 400 meters I've seen have all had a lot of "fixing" done to them, and have taken some skill to unravel and get working again. No way am I going to sell a calibrated working HP-400 for those prices. I figure that a hamfest Tek scope is going to take me at least 16 hours work cleaning it up before I consider putting the power to it, and probably another 8-12 hours calibration time. Chasing down and fixing power supply problems, HV problems, dead sweep speeds or horizontal amplifier, or sick vertical amplifier, is more time. I know that Stan figures he has to put similar time into even the cleanest hamfest scope. Unless you are a test equipment fixer, you're going to have some real excitement with some of those cheap hamfest bargains. Sure, every so often there's a real bargain, but most of the stuff I've seen wanted a day's work before I'd put power to it, and a bunch more work after that, and some of that work was removing "fixes" that other people put in.

--
==========
Hank van Cleef
E-mail vancleef@netcom.com or vancleef@tmn.com
==========

From boatanchors@theporch.com Sat Jan 25 15:50:28 1997

From: DEE ALMQUIST <soundnmind@rica.net>
Subject: WHAT IS A TCS-14?
Message-ID: <19970125182848250.AAA245@har-dialin-42.rica.net>

Hi Anchorites

A fellow Anchorite here nr home mentioned he was looking for a (Navy) TCS setup. I think this mabe the radio he is describing. It does AM and other modes with respectable power output (200 - 300 watts??). I volunteered to ask some of you that know mil gear what he might have seen. He discribes the TX as a neat, well built, and simple rig that will do multi-band and the stuff is available and not as big as a barn. Am I on the right track? What does the gear look like? I see a lot of referance to TCS on the list and other places. Must be fairly popular. If the TCS is what he is refering to(gray in color) what price range can he expect to pay for one that is in good shape?

I have not had extensive experience with Mil stuff. So please educate me a bit.
Thanks in advance
Dee, W4PNT (800)755-2365 fax: WinFax Pro (540) 249-3161

PATTY AND DEE'S MARINA, COLLECTORS OF ELECTRONIS BOATANCHORS AND TUBES.

From boatanchors@theporch.com Sat Jan 25 10:38:44 1997
From: rlahlum@juno.com (Ross J Lahlum)
Subject: Wheaton Hamfest
Message-ID: <19970125.094614.11606.1.rlahlum@juno.com>

Is anybody going to the Wheaton, IL hamfest this Sunday (1/26)?

Ross KB9JJR

From boatanchors@theporch.com Sat Jan 25 15:50:28 1997
From: "David M. Nance" <dmnance@roanoke.infi.net>
Subject: ZM-11/U Help!
Message-ID: <32EAAA8C.117A@roanoke.infi.net>

I found a ZM-11/U RLC test set at the Richmond Frostfest last weekend and was happy to get it after reading several postings here regarding it's usefulness. Unfortunately, my euphoria quickly turned to disappointment once I got home and looked inside.

Someone has disconnected the wires to the Oscillator Coil T104 along with some other wires in the same general area. In addition, it appears at least two ceramic feed thru type capacitors (C106 and C116) have been

cracked. The good news is that T104 Osc. assembly does not appear to be damaged.

I really would like to replace those capacitors, resolder the disconnected wires and then trouble shoot the thing. It does come on and the "cat's eye" tube lights up so all is not lost.

Questions:

Does anyone know of a source for the ceramic chassis mount capacitors? They are discribed in the manual as "fixed ceramic, case style, 1500 mmf @ 500vdc (Centralab # DA 717-044)". They are used as RF filters. If I can't find these, could I replace them with something else?

It's also missing the tube access shield? For this and other reasons, if anyone has a parts unit I'd be interested.

Lesson Learned: It would have been a simple matter to have loosened four screws and looked inside before I bought it. Next time I'll take the time.

Thanks,

David - WB4SSE